

LEED for Homes Overview



LEED
for **HOMES**

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President



TOPICS

- Background
- Market needs
- Strategy & structure
- The credits
- Program delivery
- The Pilot – Locally
- Why do it?



WHAT IS THE LEED SYSTEM?

LEADERSHIP in ENERGY and ENVIRONMENTAL DESIGN

A leading-edge system for certifying the greenest performing buildings in the world



LEED RATING SYSTEMS

LEED-NC new construction

LEED-EB existing buildings

LEED-CI commercial interiors

LEED-CS core & shell

LEED for HOMES

LEED-ND neighborhood development

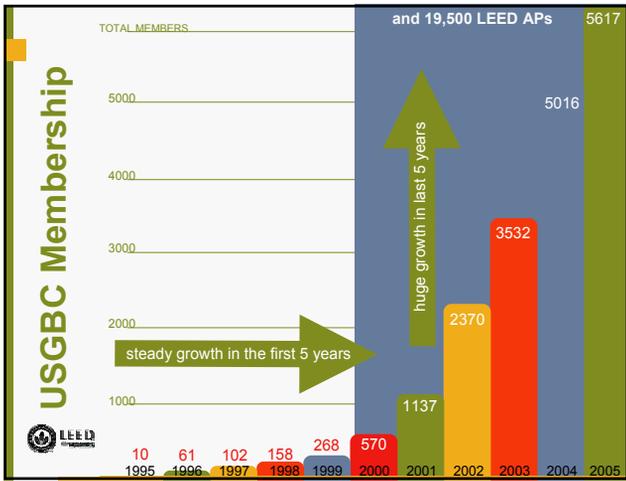
Commercial Buildings

Low-rise Housing

Mixed-Use Developments

applications guides





March 20, 2006

Nation's Building News

"Green home building is at a tipping point among the builder population"

As of 2006, **50% of builder's** "are focusing their attention on green building issues"

"It's the right thing to do"

Why LEED for Homes?

- Residential Construction
 - > 22% of U.S. primary energy use
 - > 2 million housing starts (2004)

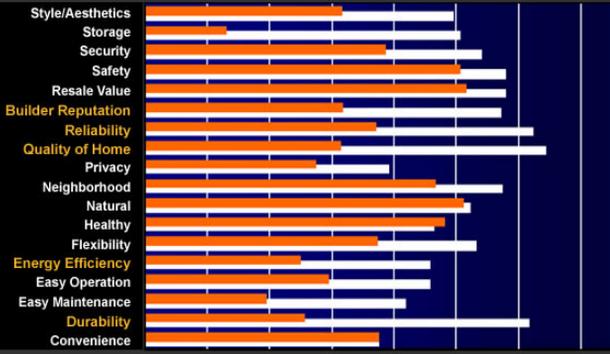
LEED Products

Product Category	Color
Existing Buildings	Red
Residential New	Blue
Commercial Interiors	Yellow
New Construction	Green
Core & Shell	Purple

Builder Benefits

- market differentiation
- improved customer satisfaction
- increased value
- reduced risks
- higher profits

Homeowner's Priorities Living in the Home



Homebuyer Benefits

30-70% energy savings

verified performance

increased value

environmentally responsible

healthier living



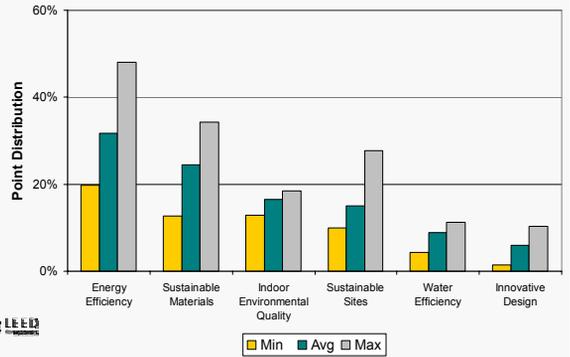
More than 50 Existing Green Building Programs

Average Max/Min

Checklist length (pages)	7	10 / 5
No. of credits	195	297 / 65
Points per credit	3.4	9 / 1
No. of points	650	1800 / 65



What green measures are being rewarded?



A new LEED – the same ...



A National, Consensus-Based Standard Developed by Experts

LEED has four levels:

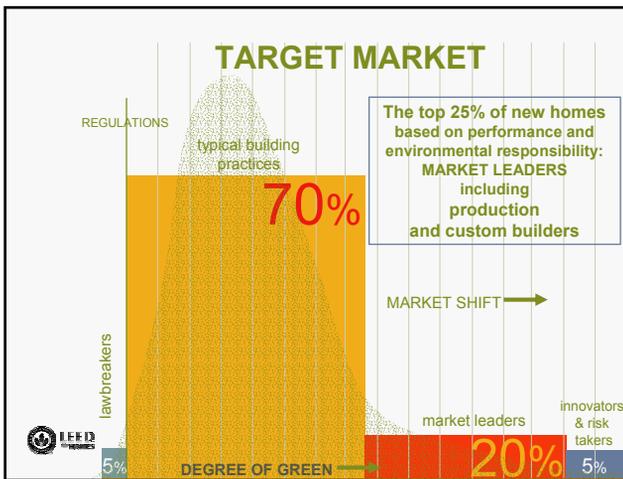




THE GOAL:
Production Builders Can Use it to Show Market Leadership

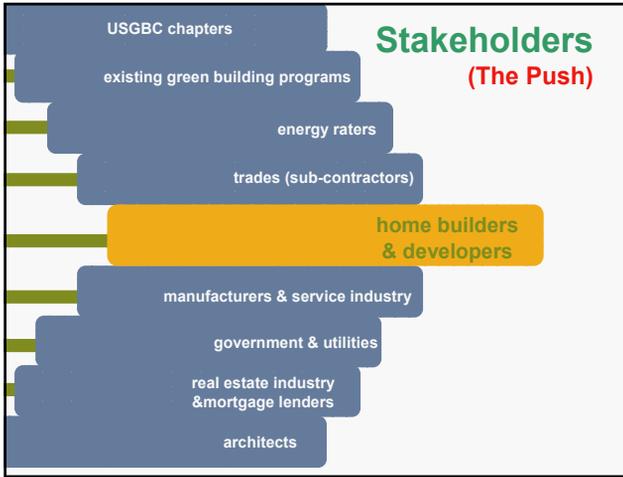
The Approach:

- Use existing rating infrastructure
- Build around successful programs
- Take strategic approach (vs. “soup-to-nuts”)
- Stay focused: one sheet (two-sided), ~108 points



Stakeholders
 (The Pull)

home buyers



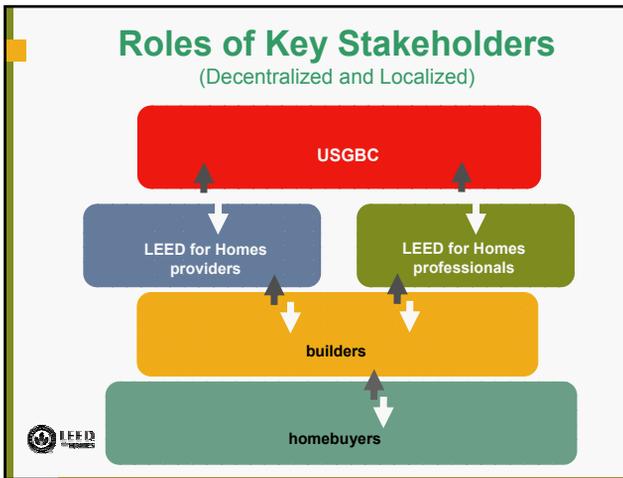
Purpose of Pilot

USGBC (To Listen and Learn)

1. Ease of Use of Rating System
2. Ease of Delivery
3. Stakeholder Acceptance

Stakeholders (To Provide Feedback)

1. Market Differentiation
2. Grow Business
3. Recognition

LEED for Homes Rating System

market rate affordable multi-family



KEY FEATURES: New to LEED

- Regional variability: climate & precipitation zones
- Durability plan
- Home size credit
- Multifamily/affordable home benefits
- One credit, one intent; mandatory + optional measures
- Location & Linkages category, integration with LEED for Neighborhood Developments (LEED-ND)

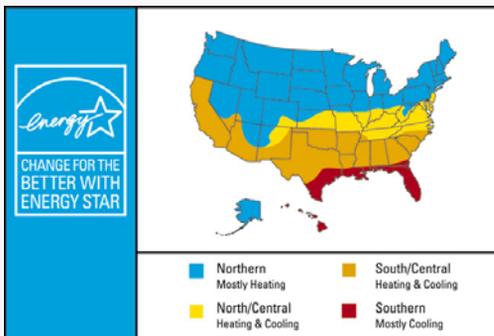


Mandatory Measures

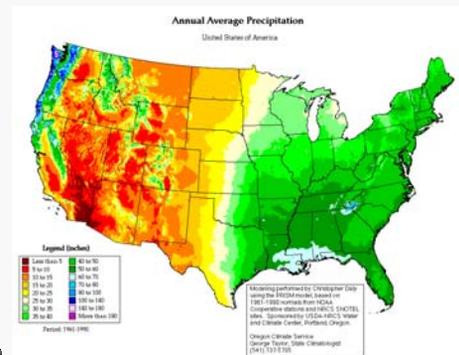
- Energy efficiency
- Durability plan
- Waste management
- Site protections
- Health & safety measures
 - Combustion venting
 - Controlled ventilation
- Owner's/tenant's manual



Climate Zones



Precipitation Zones



Durability

Mandatory Measure

- Risk Assessment
- Designed-In Durability Measures
- Construction Checklist

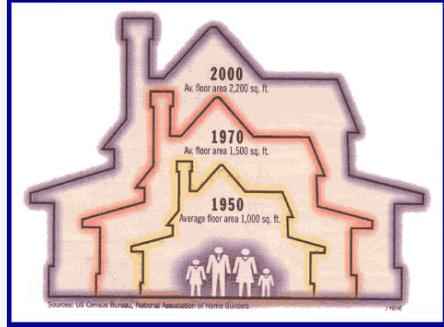
Optional Measure

- 3rd Party Inspection



Home Size

1950 3.37 people per household - 297 s.f. per person
 1970 3.14 people per household - 478 s.f. per person
 2000 2.62 people per household - 840 s.f. per person



Home Size

House Size In Square Feet* (By Number of Bedrooms)					Score
0 Bedrooms	1 Bedroom	2 Bedrooms	3 Bedrooms	4 or More Bedrooms	
300	550	800	1000	1150	10
380	610	920	1180	1450	8
460	670	1040	1360	1750	6
540	730	1160	1540	2050	4
620	790	1280	1720	2350	2
700	850	1400	1900	2650	0
780	910	1520	2080	2950	-2
860	970	1640	2260	3250	-4
940	1030	1760	2440	3550	-6
1020	1090	1880	2620	3850	-8
1100	1150	2000	2800	4150	-10
>1100	>1150	>2000	>2800	>4150	etc.



* SF values shown are midpoints of "point" bands.

Affordable/multifamily target credits: up to 20 points

Location & Linkages

- LL3: Proximity to existing infrastructure (1-2 points)
- LL4: Proximity to community resources (1-3 points)
- LL5: Compact development (1-3 points)

Sustainable Sites

- Exemptions for small lot area

Water Efficiency

- WE2: Irrigation exemption for density >10 DU/acre (1 point)

Indoor Environmental Quality

- IEQ10: No garage (1 point)

Materials & Resources

- Home size (up to 10 points)

TOTAL

- Up to 20 points toward certification (30+ required)



LEED for Homes categories

Design and construction practices that meet specified standards reducing the negative impact of buildings on their occupants and on the environment.

LEED for Homes

Checklist

Simple

- ❖ 1 page (both sides)
- ❖ 108 points
- ❖ Entry level = 30 pts.

LEED for Homes

Checklist

Project Checklist
(Version 1.72 - August 18, 2005)

Builder Name: _____ Maximum Points ² _____
Address (Street/City/State): _____ Dry Normal Wet

Req.	Pr.	Max.	Category	Description	Required	Points	
		14	Sustainable Sites (SS)				
1.1			Site Stewardship	Minimize Disturbed Area of Site (if Site > 1/3 Acre)	Required		
1.2				Erosion Controls (During Construction)	Required		
2.1			Landscaping	Basic Landscaping Design	Required	1	
2.2				Apply 3 to 4 Inches of Mulch Around Plants		5	
2.3				Limit Turf		3	
2.4				Minimize Landscape Water Demand		2	
3			Shading of Hardscapes	Locate and Plant Trees to Shade Hardscapes		1	
4.1			Surface Water Management	Install Permeable Material for at Least 65% of Lot (if Lot >= 1/4 acre)	Required		
4.2					Use Permeable Paving Materials	1	3
4.3					Design and Install Permanent Erosion Controls	1	2
5			Non-Toxic Pest Control	Select Insect and Pest Control Alternatives from List		2	
			Sub-Total				

LEED for Homes

Rating System

www.usgbc.org/leed/homes

Rating System
For Pilot Demonstration of
LEED® for Homes Program

US Green Building Council
September 8, 2005

LEED for Homes

Mandatory Measures

ENERGY STAR Labeled Home or Equivalent

Health and Safety Measures

Combustion Venting

Controlled Ventilation

Durability Plan

Waste Management Plan

Site Protections

Owner's Manual



What's New?

Regional Applicability

Climate Zones

Precipitation Zones

Durability

Plan

Inspection

Home Size

Location and Linkages

LEED-ND

Landscaping and Irrigation



Locations and Linkages

- LEED for Neighborhood Development (Coming Soon)

OR

- Avoid environmentally sensitive areas
- Near existing infrastructure
- Near public transportation and community services
- Near green space
- Higher density



Sustainable Sites

- Site stewardship
- Landscaping
 - Precipitation zones
- Shading of hardscapes – Heat Island effect
- Surface water management
 - Precipitation zones
- Non-toxic pest control



Water Efficiency

- Water reuse
- Irrigation system
 - Precipitation zones
 - Water points also in SS, EA
- Indoor water conservation



Indoor Environmental Quality

- Energy Star with Indoor Air Package

OR

- Combustion venting
- Humidity control
- Outdoor air ventilation
- Local exhaust
- Supply air distribution
- Supply air filtering
- Contaminant control
- Radon protection
- Vehicle emissions protection



Materials and Resources

- Home size
 - Points system reflect energy AND Materials impacts
- Material-efficient framing
- Local sources
- Durability plan
 - Precipitation zones
- Environmentally preferable products
- Waste management



Energy and Atmosphere

- Energy Star NW Home

OR

- Insulation
- Air infiltration
- Windows – climate-zone dependent
- Duct tightness
- Space heating and cooling
- Water heating

AND

- Lighting
- Appliances
- Renewable energy
- Refrigerant management



Homeowner Awareness

- Homeowner education
 - Basic owner's manual and walkthrough
 - Comprehensive owner's manual and multiple walkthroughs or trainings



Innovation and Design Process

- Measures proposed by the project team (up to 4 points)
 - New intents (alternate methods of meeting existing credit intents = CIR, not ID)
 - Local Materials
 - Environmentally Preferred Materials
 - Exceeding performance of existing credits



Overview of Credit Structure

Credit #2: Landscaping

Intent

Design and install landscape features that minimize demand for water and synthetic chemicals

Requirements

Mandatory Measures

2.1

Optional Measures

2.2

2.3

Verification / Submittals

Synergies and Tradeoffs

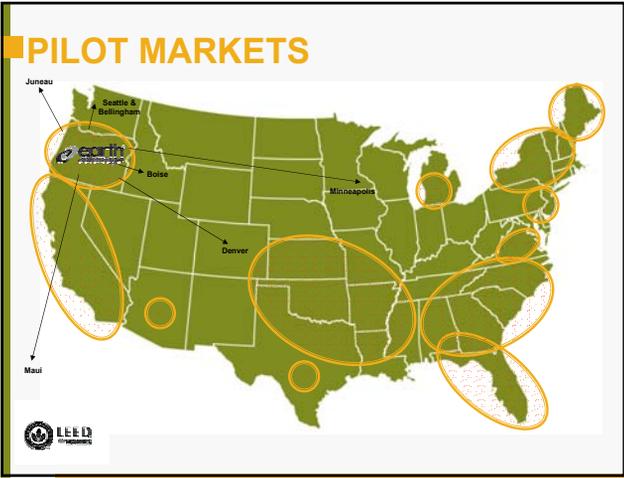
Additional Information



Pilot Schedule

Key Activities	Schedule						
	Pilot Phase						
	Sept	Oct	Nov	Dec	Jan '06	Feb	March
TAG/SC Approval							
Local Orientation Meetings							
Builder Recruiting							
Preliminary Ratings							
Build LEED Homes							
LEED Certifications							
1st Public Review							
2nd Public Review							
USGBC Ballot							
Fully Chartered Program							





Pilot Status - National

Type of Participant	Registered
# of Providers	11
# of Builders	
Affordable	15
Production	10
Custom	70
# of Homes	
Single Family	140
Multi-Family	300

Pilot Status - NW

Earth Advantage	Registered
# of Builders	
Affordable	3
Production	3
Custom	9
# of Homes	
Single Family	48
Multi-Family	88

Local Pilots

- Pilots are single family, duplex, townhome and cottage-type housing
- Seattle and Bellingham locations
- Range of price points including affordable Community Land Trust homes and high end Green Lake cottages



Ashworth Green Lake Cottages

Local Knowledge

- Pilot Rating Fees show economies of scale
- Cost structure will be reviewed in Pilot process
- System accommodates a wide range of approaches
- Leveraging opportunities
 - EnergyStar incentives and marketing support
 - Federal Tax Credit Certification

Cacade Built or another Ashworth image . . .



How Do I Get Started?

- Step 1. Do your home work
- Step 2. Select a Provider and Rater
- Step 3. Perform a Plan Review

USGBC Key Contacts

US Green Building Council Staff

Administrative and Technical / Verification Questions

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LEED for Homes Program

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build green,
everyone profits.

